

WHAT IS CLAIMED IS:

1 1. A method of reducing cross-contamination of an assay reagent solution,
2 the method comprising:

3 contacting a solid support with a first reagent solution

4 removing the solid support from contact with the first reagent solution;

5 and

6 contacting the solid support with a second reagent solution;

7 wherein cross-contamination of the second reagent solution by the first
8 reagent solution is reduced by coating the solid support with a non-stick material prior to
9 contacting the solid support with a first reagent solution.

1 2. The method of claim 1, wherein the solid support is contacted with one
2 or more intermediate reagent solutions prior to contacting the solid support with the second
3 reagent solution.

4 3. The method of claim 2, wherein the intermediate solution comprises a
5 wash solution.

6 4. The method of claim 1, wherein the solid support is removed from a
7 first container that contains the first reagent solution and placed in a second container that
8 contains the second reagent solution.

9 5. The method of claim 4, wherein the first container and the second
1 container are wells of a microtiter plate.

2 6. The method of claim 4, wherein the solid support is selected from the
3 group consisting of a prong, a dipstick, a glass bead, and a magnetic particle.

4 7. The method of claim 1, wherein the solid support comprises a container
5 and the first reagent solution is removed from the container and the second reagent solution
6 is placed into the container.

1 8. The method of claim 7, wherein one or more intermediate solutions is
2 placed into the container after removing the first reagent solution and prior to placing the
3 second reagent into the container.

1 9. The method of claim 7, wherein the solid support is selected from the
2 group consisting of: a microtiter plate, a tube, a silicon chip, and a slide.

1 10. The method of claim 1, wherein the solid support comprises a capture
2 reagent which specifically binds to a target analyte.

1 11. The method of claim 1, wherein the first reagent solution comprises a
2 denaturant.

1 12. The method of claim 11, wherein the denaturant is selected from the
2 group consisting of a chaotropic agent and a detergent.

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A1 1 13. The method of claim 1, wherein the non-stick coating material is
2 selected from the group consisting of silane, dimethylchlorosilane and Gel Slick™.

1 14. The method of claim 1, wherein the second reagent solution comprises a
2 substrate which produces a detectable product when contacted with an enzyme linked to a
3 signal reagent.

1 15. A method of detecting a target analyte in a test sample, the method
2 comprising:
3 contacting a test sample with a solid support which comprises a capture
4 reagent that binds to the target analyte, wherein the solid support is coated with a non-stick
5 coating material prior to contacting the sample;
6 contacting the solid support with a signal reagent which binds to the
7 target analyte; and
8 determining whether the test sample contains the target analyte by
9 detecting the presence of signal reagent immobilized on the solid support.

1 16. The method of claim 15, wherein the non-stick coating material is a
2 silanizing agent.

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1 17. The method of claim 15, wherein the non-stick coating material is
2 selected from the group consisting of silane, dimethylchlorosilane and Gel Slick™.

1 18. The method of claim 15, wherein the test sample comprises a
2 denaturant.

1 19. The method of claim 18, wherein the denaturant is selected from the
2 group consisting of a chaotropic agent and a detergent.

1 20. The method of claim 15, wherein the solid support is coated with the
2 non-stick coating material after the capture reagent is attached to the solid support.

1 21. The method of claim 15, wherein the capture reagent is attached to the
2 solid support prior to contacting the test sample with the solid support.

1 22. The method of claim 15, wherein the capture reagent is attached to the
2 solid support simultaneously with contacting the test sample with the solid support.

1 23. The method of claim 15, wherein the method further comprises washing
2 the solid support prior to contacting the solid support with the signal reagent.

1 24. The method of claim 15, wherein the method further comprises washing
2 the solid support prior to detecting the presence of signal reagent.

1 25. The method of claim 15, wherein the solid support is selected from the
2 group consisting of a dipstick, a bead, a magnetic particle, a centrifuge tube, and a glass
3 slide.

1 26. The method of claim 15, wherein the capture reagent is covalently
2 attached to the solid support.

1 27. The method of claim 15, wherein the capture reagent is noncovalently
2 attached to the solid support.

1 28. The method of claim 27, wherein the capture reagent comprises a tag
2 which binds to a tag binder attached to the solid support.

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1 29. The method of claim 28, wherein the tag is biotin and the tag binder is
2 selected from the group consisting of avidin, streptavidin, and an antibody that binds to
3 biotin.

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1 30. The method of claim 28, wherein the capture reagent comprises an
2 antibody and the tag binder is selected from protein A, protein G, and an antibody that binds
3 to the capture reagent.

1 31. The method of claim 15, wherein the target analyte comprises a
2 polynucleotide and the capture reagent comprises an oligonucleotide which hybridizes to the
3 polynucleotide.

1 32. The method of claim 31, wherein the polynucleotide is DNA or RNA.

1 33. The method of claim 31, wherein the signal reagent comprises a
2 detectable label attached to an oligonucleotide which hybridizes to the polynucleotide.

1 34. The method of claim 31, wherein the signal reagent comprises a
2 detectable label attached to an antibody which specifically binds to double stranded nucleic
3 acids.

1 35. The method of claim 31, wherein the polynucleotide is amplified prior
2 to contacting the sample with the capture reagent.

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1 36. The method of claim 35, wherein the polynucleotide is amplified by a
2 procedure selected from the group consisting of polymerase chain reaction, ligase chain
3 reaction, strand displacement amplification, transcription mediated amplification, and
4 NASBA.

1 37. The method of claim 31, wherein the denaturant is selected from the
2 group consisting of guanidine, sodium thiocyanate, urea, and lithium TCA.

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1 38. The method of claim 15, wherein the capture reagent comprises an
2 antibody which binds to the target analyte.

1 39. The method of claim 15, wherein the signal reagent comprises an
2 antibody which binds to the target analyte.

1 40. The method of claim 15, wherein the signal reagent comprises a
2 detectable label.

1 41. An apparatus for detecting a target analyte, the apparatus comprising a
2 solid support attached to a capture reagent which binds to the target analyte, wherein the
3 solid support is coated with a non-stick coating material.

1 42. The apparatus of claim 41, wherein the non-stick coating material is a
2 silanizing agent.

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1 43. The apparatus of claim 42, wherein the silanizing agent is selected from
2 the group consisting of silane, dimethylchlorosilane and Gel Slick™.

1 44. The apparatus of claim 41, wherein the solid support is selected from
2 the group consisting of a prong, a dipstick, a glass bead, and a magnetic particle.

1 45. The apparatus of claim 41, wherein the capture reagent is noncovalently
2 attached to the solid support.

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